

## CLAIMS

What is claimed is:

1. A method to distribute a user-defined name of a user's wireless device to a plurality of member wireless devices in an ad hoc network, comprising:

associating a member device address with a member-defined name, in a member name record stored in a plurality of member devices in the ad hoc network;

receiving a name distribution message associating a user device address with a user-defined name;

comparing the user-defined name with the member-defined name;

storing the user device address in association with the user-defined name in a user name record in the plurality of member devices in the ad hoc network, if there is no name conflict; and

using the user-defined name at the plurality of member devices to access the user's wireless device in the ad hoc network.

2. The method of claim 1, which further comprises:

associating the user device address with a user-defined alternate name, in the name distribution message; and

substituting the user-defined alternate name for the user-defined name in the user name record, if there is a name conflict.

3. The method of claim 1, which further comprises:

associating the member device address with a member-defined alternate name, in the member name record stored in the plurality of member devices in the ad hoc network; and substituting the member-defined alternate name for the member-defined name in the member name record, if there is a name conflict.

4. The method of claim 1, which further comprises:

distributing the name distribution message to the plurality of member devices in the ad hoc network;

comparing the user-defined name with the member-defined name in each of the plurality of member devices in the ad hoc network;

storing the user device address in association with the user-defined name in a user name record in the plurality of member devices in the ad hoc network, if there is no name conflict; and

using the user-defined name at the plurality of member devices in the ad hoc network, to access the user's wireless device in the ad hoc network.

5. The method of claim 4, which further comprises:

associating the user device address with a user-defined alternate name, in the name distribution message; and

substituting the user-defined alternate name for the user-defined name in the user name record, if there is a name conflict.

6. The method of claim 4, which further comprises:

associating the member device address with a member-defined alternate name, in the member name record stored in the plurality of member devices in the ad hoc network; and substituting the member-defined alternate name for the member-defined name in the member name record, if there is a name conflict.

7. The method of claim 1, which further comprises:

receiving the name distribution message from the user's device when connecting the user's wireless device to the ad hoc network.

8. The method of claim 1, which further comprises:

receiving the name distribution message from the user's device, which is located in a second ad hoc network, when connecting the second ad hoc network with the first said ad hoc network.

9. The method of claim 1, which further comprises:

associating the user device address with a user-defined alternate name and a user device time stamp, in the name distribution message; and

substituting the user-defined alternate name for the user-defined name in the user name record, if there is a name conflict and the user device time stamp is younger than a member device time stamp.

10. The method of claim 1, which further comprises:

associating the user device address with a user-defined alternate name and a user device time stamp, in the name distribution message; and

substituting the user-defined alternate name for the user-defined name in the user name record, if there is a name conflict and the user device time stamp is older than a member device time stamp.

11. The method of claim 1, which further comprises:

associating the member device address with a member-defined alternate name and a member device time stamp, in the member name record stored in the plurality of member devices in the ad hoc network; and

substituting the member-defined alternate name for the member-defined name in the member name record, if there is a name conflict and the member device time stamp is younger than a user device time stamp.

12. The method of claim 1, which further comprises:

associating the member device address with a member-defined alternate name and a member device time stamp, in the member name record stored in the plurality of member devices in the ad hoc network; and

substituting the member-defined alternate name for the member-defined name in the member name record, if there is a name conflict and the member device time stamp is older than a user device time stamp.

13. The method of claim 1, which further comprises:

including a current hop count value and a maximum hop count value in the name distribution message;

incrementing the current hop count value in the plurality of member devices in the ad hoc network; and

displaying the user-defined name in the plurality of member devices if the current hop count value is not greater than the maximum hop count value.

14. The method of claim 1, which further comprises:

associating the user device address with a user-defined permission to display, in the name distribution message; and

granting to the plurality of member devices, permission to display the user-defined name.

15. The method of claim 1, which further comprises:

storing a member device address in a member name record stored in a plurality of member devices in the ad hoc network;

receiving a name distribution message associating the member device address with a delete device indication;

distributing the name distribution message associating the member device address with the delete device indication, to the plurality of member devices in the ad hoc network; and

deleting the member record from the plurality of member devices in the ad hoc network.

16. The method of claim 1, which further comprises:

receiving a name distribution message associating the member device address with a change name indication;

distributing the name distribution message associating the member device address with the change name indication, to the plurality of member devices in the ad hoc network; and

changing the member-defined name in the member record of the plurality of member devices in the ad hoc network.

17. The method of claim 1, which further comprises:

associating a member device address with a member-defined name and a name display attribute, in a member name record stored in a plurality of member devices in the ad hoc network;

receiving a name distribution message associating the member device address with a change display attribute indication;

distributing the name distribution message associating the member device address with a change display attribute indication, to the plurality of member devices in the ad hoc network; and

changing the name display attribute of the member-defined name in the member record of the plurality of member devices in the ad hoc network.

18. The method of claim 1, which further comprises:

associating a member device address with a member-defined name and a name display attribute, in a member name record stored in a plurality of member devices in the ad hoc network;

receiving a name distribution message associating the member device address with a name flash display attribute indication;

distributing the name distribution message associating the member device address with a name flash display attribute indication, to the plurality of member devices in the ad hoc network;  
and

flashing the display of the member-defined name in the plurality of member devices in the ad hoc network.

19. The method of claim 1, which further comprises:

associating a member device address with a security attribute, in a member name record stored in a plurality of member devices in the ad hoc network;

receiving a name distribution message associating the member device address with a change security attribute indication;

distributing the name distribution message associating the member device address with a change security attribute indication, to the member device; and

changing the security attribute in the member record in the plurality of member devices in the ad hoc network.

20. The method of claim 1, which further comprises:

associating a member device address with a member-defined name and a security attribute, in a member name record stored in a plurality of member devices in the ad hoc network;

receiving a name distribution message associating the member device address with an authorization list of member devices;

distributing the name distribution message associating the member device address with an authorization list of member devices, to the plurality of member devices in the ad hoc network;  
and

changing the security attribute of the member device, if it is listed on the authorization list.

21. A method to distribute a user-defined name of a user's wireless device to a plurality of member wireless devices in an ad hoc network, comprising:

associating a member device address with a member-defined name, in a member name record stored in a plurality of member devices in the ad hoc network;

distributing a name distribution message associating a user device address with a user-defined name and a user-defined alternate name, to the plurality of member devices in the ad hoc network;

comparing the user-defined name with the member-defined name in each of the plurality of member devices in the ad hoc network;

storing the user device address in association with the user-defined name in a user name record in the plurality of member devices in the ad hoc network, if there is no name conflict;

storing the user device address in association with the user-defined alternate name in a user name record in the plurality of member devices in the ad hoc network, if there is a name conflict; and



using the stored name at the plurality of member devices in the ad hoc network, to access the user's wireless device in the ad hoc network.

22. The method of claim 21, which further comprises:

associating the member device address with the member-defined name and a member-defined alternate name, in the member name record stored in the plurality of member devices in the ad hoc network;

distributing a second name distribution message associating the user device address with the user-defined name, to the plurality of member devices in the ad hoc network;

substituting the member-defined alternate name for the member-defined name in the member name record in the plurality of member devices in the ad hoc network, if there is a name conflict;

storing the user device address in association with the user-defined name in a second user name record in the plurality of member devices in the ad hoc network; and

using the user-defined name from the second user name record at the plurality of member devices in the ad hoc network, to access the user's wireless device in the ad hoc network.

23. The method of claim 21, which further comprises:

associating the member device address with the member-defined name and an annunciator attribute, in the member name record stored in the plurality of member devices in the ad hoc network;

receiving a name distribution message associating the member device address with a change display attribute indication;

distributing the name distribution message associating the member device address with a change display attribute indication, to the plurality of member devices in the ad hoc network; and

changing the annunciator attribute of the member-defined name in the member record of the plurality of member devices in the ad hoc network.

24. The method of claim 23, wherein said annunciator attribute controls the font of the member-defined name as it is displayed.

25. The method of claim 23, wherein said annunciator attribute controls the color of the member-defined name as it is displayed.

26. The method of claim 23, wherein said annunciator attribute controls the animation of the member-defined name as it is displayed.

27. The method of claim 23, wherein said annunciator attribute controls a sound played in conjunction with the display of the member-defined name.

28. The method of claim 21, which further comprises:

associating the member device address with the member-defined name, in the member name record stored in the plurality of member devices in a first ad hoc network;

receiving a name distribution message associating a second user device address with a second user-defined name from a user's device which is located in a second ad hoc network, when connecting the second ad hoc network with the first ad hoc network;

comparing the second user-defined name with the member-defined name;

storing the second user device address in association with the second user-defined name in a user name record in the plurality of member devices in the first ad hoc network, if there is no name conflict; and

using the second user-defined name at the plurality of member devices to access the user's wireless device in the first ad hoc network.

29. The method of claim 21, for connecting two ad hoc networks, comprising:

associating a first member device address with a first member-defined name, in a first member name record stored in a first plurality of member devices in a first ad hoc network;

associating a second member device address with a second member-defined name, in a second member name record stored in a second plurality of member devices in a second ad hoc network;

receiving a first name distribution message in the second ad hoc network, associating a first user device address with a first user-defined name from a first user's device which is located in the first ad hoc network, when connecting the second ad hoc network with the first ad hoc network;

receiving a second name distribution message in the first ad hoc network, associating a second user device address with a second user-defined name from a second user's device which is located in the second ad hoc network, when connecting the second ad hoc network with the first ad hoc network;

comparing the first user-defined name with the second member-defined name;

storing the first user device address in association with the first user-defined name in a first user name record in the second plurality of member devices in the second ad hoc network, if there is no name conflict;

storing the second user device address in association with the second user-defined name in a second user name record in the first plurality of member devices in the first ad hoc network, if there is no name conflict;

using the first user-defined name at the second plurality of member devices to access the first user's wireless device in the first ad hoc network; and

using the second user-defined name at the first plurality of member devices to access the second user's wireless device in the second ad hoc network.

30. A method to distribute user-defined names of wireless devices to a plurality of member wireless devices when connecting two ad hoc networks, comprising:

associating a member device address with a member-defined name, in a member name record stored in a plurality of member devices in a first ad hoc network;

connecting a second ad hoc network containing a user device, to the first ad hoc network;

receiving a name distribution message in the first ad hoc network from the user device, the message associating a user device address with a user-defined name;

comparing the user-defined name with the member-defined name;

storing the user device address in association with the user-defined name in a user name record in the plurality of member devices in the first ad hoc network, if there is no name conflict;

and

using the user-defined name at the plurality of member devices in the first ad hoc network to access the user's wireless device in the second ad hoc network.

31. The method of claim 30, which further comprises:

associating the user device address with a user-defined alternate name and a user device time stamp, in the name distribution message; and

substituting the user-defined alternate name for the user-defined name in the user name record, if there is a name conflict and the user device time stamp is younger than a member device time stamp.

32. The method of claim 30, which further comprises:

associating the user device address with a user-defined alternate name and a user device time stamp, in the name distribution message; and

substituting the user-defined alternate name for the user-defined name in the user name record, if there is a name conflict and the user device time stamp is older than a member device time stamp.

33. The method of claim 30, which further comprises:

associating the member device address with a member-defined alternate name and a member device time stamp, in the member name record stored in the plurality of member devices; and

substituting the member-defined alternate name for the member-defined name in the member name record, if there is a name conflict and the member device time stamp is younger than a user device time stamp.

34. The method of claim 30, which further comprises:

associating the member device address with a member-defined alternate name and a member device time stamp, in the member name record stored in the plurality of member devices; and

substituting the member-defined alternate name for the member-defined name in the member name record, if there is a name conflict and the member device time stamp is older than a user device time stamp.

35. The method of claim 30, which further comprises:

including a current hop count value and a maximum hop count value in the name distribution message;

incrementing the current hop count value in the plurality of member devices; and

displaying the user-defined name in the plurality of member devices if the current hop count value is not greater than the maximum hop count value.

36. The method of claim 30, which further comprises:

associating the user device address with a user-defined permission to display, in the name distribution message; and

granting to the plurality of member devices, permission to display the user-defined name.

37. The method of claim 30, wherein the wireless devices use a IEEE 802.11 Wireless LAN standard.

38. The method of claim 30, wherein the wireless devices use the High Performance Radio Local Area Network (HIPERLAN) standard.

39. The method of claim 30, wherein the wireless devices use the Bluetooth standard.

40. The method of claim 30, wherein the wireless devices use the Digital Enhanced Cordless Telecommunications (DECT) standard.

41. The method of claim 30, wherein the wireless devices use the Shared Wireless Access Protocol (SWAP) standard.

42. The method of claim 30, wherein the wireless devices use the IEEE 802.15 Wireless Personal Area Network (WPAN) standard.

43. The method of claim 30, wherein the wireless devices use the Infrared Data Association (IrDA) standard.

44. The method of claim 30, wherein the wireless devices use the Multimedia Mobile Access Communication (MMAC) Systems standard.

45. A system to distribute a user-defined name of a user's wireless device to a plurality of member wireless devices in an ad hoc network, comprising:

a memory, for storing a member device address in association with a member-defined name, in a member name record stored in a member device in an ad hoc network;

an input, for receiving a name distribution message associating a user device address with a user-defined name;

a comparator coupled to the memory and the input, for comparing the user-defined name with the member-defined name;

said memory storing the user device address in association with the user-defined name in a user name record, if there is no name conflict; and

an interface coupled to the memory, for using the user-defined name to access the user's wireless device in the ad hoc network.

46. The system as claimed in claim 45, comprising:

said input receiving a second name distribution message from a second user device in a second ad hoc network, the second message associating a second user device address with a second user-defined name;

said comparator comparing the second user-defined name with the member-defined name;

said memory storing the second user device address in association with the second user-defined name in a second user name record, if there is no name conflict; and



said interface using the second user-defined name at the member device to access the second user wireless device in the second ad hoc network.

47. A computer program product to distribute a user-defined name of a user's wireless device to a plurality of member wireless devices in an ad hoc network, comprising:

a computer readable medium;

program code in said computer readable medium for storing a member device address in association with a member-defined name, in a member name record in a member device in the ad hoc network;

program code in said computer readable medium for receiving a name distribution message associating a user device address with a user-defined name;

program code in said computer readable medium for comparing the user-defined name with the member-defined name;

program code in said computer readable medium for storing the user device address in association with the user-defined name in a user name record, if there is no name conflict; and

program code in said computer readable medium for using the user-defined name to access the user's wireless device in the ad hoc network.

48. A computer program product of claim 47, which further comprises: comprising:

program code in said computer readable medium for receiving a second name distribution message from a second user device in a second ad hoc network, the second message associating a second user device address with a second user-defined name;

program code in said computer readable medium for comparing the second user-defined name with the member-defined name;

program code in said computer readable medium for storing the second user device address in association with the second user-defined name in a second user name record, if there is no name conflict; and

program code in said computer readable medium for using the second user-defined name at the member device to access the second user wireless device in the second ad hoc network.

49. A method to distribute a user-defined name of a user's wireless device to a plurality of member wireless devices in an ad hoc network, comprising:

associating a member device address with a member-defined name, in an existing name table stored in a plurality of member devices in the ad hoc network;

receiving a name distribution message associating a user device address with a user-defined name in a new name table;

appending the new name table to the existing name table to form a composite name table;

comparing the user-defined name with the member-defined name;

storing the user device address in association with the user-defined name in the composite name table in the plurality of member devices in the ad hoc network, if there is no name conflict; and

using the user-defined name at the plurality of member devices to access the user's wireless device in the ad hoc network.

50. The method of claim 49, which further comprises:

receiving a second name distribution message associating a second user device address with a second user-defined name in a second new name table, from a user's device which is located in a second ad hoc network, when connecting the second ad hoc network with the first said ad hoc network;

appending the second new name table to the existing name table to form a composite name table;

comparing the second user-defined name with the member-defined name;

storing the second user device address in association with the second user-defined name in the composite name table in the plurality of member devices in the first said ad hoc network, if there is no name conflict; and

using the second user-defined name at the plurality of member devices to access the second user wireless device in the first said ad hoc network.

51. A method to distribute user-defined names of users' wireless devices to a plurality of member wireless devices when connecting two ad hoc networks, comprising:

associating a first member device address with a first member-defined name, in a first existing name table stored in a first plurality of member devices in a first ad hoc network;

associating a second member device address with a second member-defined name, in a second existing name table stored in a second plurality of member devices in a second ad hoc network;

receiving a first name distribution message including the first existing name table in the second ad hoc network, associating a first user device address with a first user-defined name from a first user's device which is located in the first ad hoc network, when connecting the second ad hoc network with the first ad hoc network;

appending the first existing name table to the second existing name table to form a composite name table;

comparing the first user-defined name with the second member-defined name;

storing the first user device address in association with the first user-defined name in the composite name table in the second plurality of member devices in the second ad hoc network, if there is no name conflict; and

using the first user-defined name at the second plurality of member devices to access the first user's wireless device in the first ad hoc network.

52. The method of claim 51, which further comprises:

receiving a second name distribution message in the first ad hoc network from a second user device in the second network, the second message including the second existing name table associating a second user device address with a second user-defined name;

appending the first existing name table to the second existing name table to form a second composite name table;

comparing the second user-defined name with the first member-defined name;

storing the second user device address in association with the second user-defined name in the second composite name table in the plurality of member devices in the first ad hoc network, if there is no name conflict; and

using the second user-defined name at the plurality of member devices in the first ad hoc network to access the second user wireless device in the second ad hoc network.

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